2015 Annual Drinking Water Quality Report
CITY OF KANNAPOLIS

NC ID # 01-80-065

(Reporting year 2014)

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about your source(s) of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information because informed customers are our best allies. **If you have any questions about this report or concerning your water, please contact John Erickson at 704-932-3904. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. Kannapolis City Council welcomes public comments at their meetings held on the second and fourth Mondays of each month at 6 p.m. at the Kannapolis Train Station, 201 South Main Street. For more information, contact the City Clerk at (704) 920-4300.**

What EPA Wants You to Know

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Kannapolis is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

When You Turn on Your Tap, Consider the Source

Kannapolis is located in the 10.6 square miles Irish Buffalo Creek Watershed, which is part of the Rocky River sub-basin of the major Yadkin River Basin. The City of Kannapolis' drinking water comes primarily from Kannapolis Lake; a 289-acre reservoir that stretches from Pump Station Road to Cannon Farm Road. The Lake has a 1.35 billion gallon holding capacity. We have two supplemental raw water sources, Lake Don T. Howell in Cabarrus County and Second Creek in Rowan County that can supply Kannapolis Lake when necessary. Water is also obtained through system interconnections from the City of Concord and the City of Salisbury. The average daily demand for water in Kannapolis is 4-million gallons per day. To learn more about our watershed, go to the U.S. EPA's Surf Your Watershed web site at www.epa.gov/surf.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for The City of Kannapolis was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Kannapolis Lake	Moderate	August 14 , 2014
Second Creek/Back Creek	Moderate	August 14 , 2014
Lake Don T. Howell	Moderate	August 14 , 2014
Lake Fisher	Moderate	August 14 , 2014

The complete SWAP Assessment report for The City of Kannapolis may be viewed on the Web at: www.ncwater.org/pws/swap. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, number, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the system's potential to become contaminated by PCSs in the assessment area.

The City of Kannapolis and the adjacent communities have adopted the regional approach in utilizing water resources. Kannapolis has interconnections with Concord, Salisbury, and Landis. Kannapolis purchases 0.09 million gallons per day from Concord for usage in the Shiloh Church Road (NC ID #20-13-022) section of the City of Kannapolis. Kannapolis purchases 0.3 million gallons per day from the City of Salisbury (NC ID #01-80-010). Kannapolis and Concord (NC ID #01-13-010) are interconnected in several adjacent community areas to supply water to each other when necessary. The City of Kannapolis supplies 0.2 million gallons per day to the Town of Landis. Distribution system water receiving data is included in sampling results below. Please refer to the following web sites for additional water quality information: www.concordnc.gov/water quality report; www.salisburync.gov/water quality report.

To continue meeting future demand for high quality drinking water, an interbasin transfer has been obtained from the State of North Carolina that will allow the City of Kannapolis to obtain raw or finished water, or a combination from the Catawba and Yadkin Rivers.

Also meeting future needs is a partnership with Concord and Albemarle that connects the Albemarle water system to the Concord–Kannapolis system. A 30-inch water line will run nearly 16 miles connecting Albemarle to Kannapolis through Concord. Over the past decade Albemarle has been impacted by the loss of numerous industrial customers to their water system. As a result, Albemarle now has excess treated water capacity and desires new customers to make up for industrial usage losses. This is a primary example of the regional approach in utilizing water resources.

Water Quality Data Tables of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The table below lists all the drinking water contaminants that we detected in the last round of sampling for the particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2014.** The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Violations that Your Water System Received for the Report Year

NONE

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted.

Unregulated Contaminant Monitoring Rule (UCMR3)

This program is EPA's screening survey and assessment monitoring of 30 unregulated contaminants using specialized analytical method technologies not as commonly used by drinking water laboratories. This program is for data gathering and future assessment options.

Analysis was performed on 11/20/2013; detections for the following:

Chromium (total)	0.27 µg/L (micrograms per liter) or 1ppb (parts per billion)
Vanadium	0.48 µg/L
Chromium-6	0.044 mg/L
Strontium	229 mg/L
Vanadium	0.41 mg/L
Chlorate	124 mg/L

If you have questions about this assessment monitoring please call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline

Important Drinking Water Definitions:

Not-Applicable (N/A) – Information not applicable/not required for that particular water system or for that particular rule.

Non-Detects (ND) - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.

Parts per million (ppm) or Milligrams per liter (mg/L) - One part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter (ug/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Picocuries per liter (pCi/L) - Picocuries per liter is a measure of the radioactivity in water.

Million Fibers per Liter (MFL) - Million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

Maximum Residual Disinfection Level Goal (MRDLG) – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfection Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Microbiological Contaminants in the Distribution System - For systems that collect ***40 or more*** samples per month

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	4%	0	5% of monthly samples are positive	Naturally present in the environment
Fecal Coliform or *E. coli* (presence or absence)	N	0	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive)	Human and animal fecal waste

Stage 2 Disinfection Byproduct Compliance – Based upon Locational Running Annual Average (LRAA)

Disinfection Byproduct	Year Sampled	MCL Violation Y/N	Your Water (Highest LRAA)	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb)	2014				N/A	80	By-product of drinking water chlorination
B01		N	63.5	52.5 – 63.5			
B02		N	41	39.5 – 41			
B03		N	60	53.2 – 60			
B04		N	53.7	50.2 – 53.7			
HAA5 (ppb)	2014				N/A	60	By-product of drinking water disinfection
B01		N	42	39.6 – 42			
B02		N	42.4	38.1 – 42.4			
B03		N	34.8	29.5 – 34.8			
B04		N	46.6	42.4 – 46.6			

For TTHM: ***Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.***

For HAA5: ***Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.***

Chlorine

Contaminant (units)	MCL Violation Y/N	Average	Range
Chlorine (ppm)	N	0.67 mg/L	0.20 – 1.57

Turbidity*

Contaminant (units)	Treatment Technique (TT) Violation Y/N	Your Water	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Turbidity (NTU) - Highest single turbidity measurement	N	0.259	Turbidity > 1 NTU	Soil runoff
Turbidity (NTU) - Lowest monthly percentage (%) of samples meeting turbidity limits	N	100%	Less than 95% of monthly turbidity measurements are ≤ 0.3 NTU	

* Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU.

Total Organic Carbon (TOC)

Contaminant (units)	TT Violation Y/N	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low - High	MCLG	TT	Likely Source of Contamination	Compliance Method (Step 1 or ACC#__)
Total Organic Carbon (removal ratio) (TOC)-TREATED	N	1.33	1.06 – 1.58	N/A	TT	Naturally present in the environment	STEP 1

Inorganic Contaminants

Contaminant (units)		MCL Violation Y/N	Your Water		MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)		N	.71		4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90^{th} percentile)	Sept.2014	0.056	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90^{th} percentile)	Sept. 2014	ND	0	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

Synthetic Organic Chemicals (SOC) – Including Pesticides & Herbicides

Contaminant (units)	Sample Date	Your Water	MCL	Violation	Likely Source of Contamination
Atrazine (ppb)	10/22/14	0.230	3.0	No	Runoff from herbicide used on row crops

Miscellaneous Contaminants

The PWS Section requires monitoring for other misc. contaminants, some for which the EPA has set national secondary drinking water standards (SMCLs) because they may cause cosmetic effects or aesthetic effects (such as taste, odor, and/or color) in drinking water. The contaminants with SMCLs normally do not have any health effects and normally do not affect the safety of your water.

Unregulated Substances

Contaminant (units)	Sample Date	Your Water	Range Low/High	SMCL
Iron (ppm)	Continuous	.02	N/A	0.3 mg/L
Manganese (ppm)	Continuous	<.015	N/A	0.05 mg/L
Sodium (ppm)	11/6/14	22.3	N/A	N/A
Sulfate (ppm)	11/6/14	21.5	N/A	250 mg/L
pH	continuous	7.2	6.9 – 8.0	6.5 to 8.5

Other Water Sources and Their Characteristics

Salisbury

Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	0%	0	5% of monthly samples are positive	Naturally present in the environment
Fecal Coliform or *E. coli* (presence or absence)	N	0	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive)	Human and animal fecal waste

Disinfectants and Disinfection Byproducts Contaminants

Contaminant (units)	MCL/MRDL Violation Y/N	Your Water RAA	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb) [Total Trihalomethanes]	N	44.9	13-94	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids]	N	26.2	10.4 – 45.3	N/A	60	By-product of drinking water disinfection

Chlorine

Contaminant (units)	MCL Violation Y/N	Average	Range
Chlorine (ppm)	N	1.36	N/A

Turbidity

Contaminant (units)	Treatment Technique (TT) Violation Y/N	Your Water	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Turbidity (NTU) - Highest single turbidity measurement	N	0.27	Turbidity > 1 NTU	Soil runoff
Turbidity (NTU) - Lowest monthly percentage (%) of samples meeting turbidity limits	N	100 %	Less than 95% of monthly turbidity measurements are ≤ 0.3 NTU	

Total Organic Carbon (TOC)

Contaminant (units)	TT Violation Y/N	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low - High	MCLG	TT	Likely Source of Contamination	Compliance Method (Step 1 or ACC#__)
Total Organic Carbon (removal ratio) (TOC)-TREATED	N	0.96	0.96 – 1.4	N/A	TT	Naturally present in the environment	STEP 1

Shiloh Church Rd.

Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	0%	0	5% of monthly samples are positive	Naturally present in the environment
Fecal Coliform or *E. coli* (presence or absence)	N	0	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive)	Human and animal fecal waste

Disinfectants and Disinfection Byproducts Contaminants

Contaminant (units)	MCL/MRDL Violation Y/N	Your Water RAA	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb) [Total Trihalomethanes]	N	39.3	21 - 70	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids]	N	38.1	3.3 – 47.8	N/A	60	By-product of drinking water disinfection

Chlorine

Contaminant (units)	MCL Violation Y/N	Average	Range
Chlorine (ppm)	N	0.77	0.2 – 1.40

City of Concord

Microbiological Contaminants in the Distribution System - For systems that collect ***40 or more*** samples per month

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	1.1%	0	5% of monthly samples are positive	Naturally present in the environment
Fecal Coliform or *E. coli* (presence or absence)	N	0	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive)	Human and animal fecal waste

Disinfectants and Disinfection Byproducts Contaminants

Contaminant (units)	MCL/MRDL Violation Y/N	Your Water RAA	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb) [Total Trihalomethanes]	N	76	27 - 81	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids]	y	61.7	16.4 – 72.2	N/A	60	By-product of drinking water disinfection

Chlorine

Contaminant (units)	MCL Violation Y/N	Average	Range
Chlorine (ppm)	N	0.91	0.20 – 2.16

Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	2%	0	5% of monthly samples are positive	Naturally present in the environment
Fecal Coliform or *E. coli* (presence or absence)	N	0	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive)	Human and animal fecal waste

Turbidity

Contaminant (units)	Treatment Technique (TT) Violation Y/N	Your Water	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Turbidity (NTU) - Highest single turbidity measurement	N	0.27	Turbidity > 1 NTU	Soil runoff
Turbidity (NTU) - Lowest monthly percentage (%) of samples meeting turbidity limits	N	100%	Less than 95% of monthly turbidity measurements are <_ 0.3 NTU	

Total Organic Carbon (TOC)

Contaminant (units)	TT Violation Y/N	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low - High	MCLG	TT	Likely Source of Contamination	Compliance Method (Step 1 or ACC#__)
Total Organic Carbon (removal ratio) (TOC)-TREATED	N	1.30	1.09 – 1.51	N/A	TT	Naturally present in the environment	STEP 1

Inorganic Contaminants

Contaminant (units)		MCL Violation Y/N	Your Water		MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)		N	.94		4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90^{th} percentile)	2013	0.391	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90^{th} percentile)	2013	<3	0	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

Unregulated Substances

Contaminant (units)	Sample Date	Your Water	Range Low/High	SMCL
Sodium (ppm)	2014	18.9	N/A	N/A
Sulfate (ppm)	2014	35.3	N/A	250 mg/L